Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (original) A medical device comprising:

a metallic tubular member;

a polymeric tubular member disposed over at least a portion of the metallic tubular member forming a lap joint; and

a coupling agent disposed between the metallic tubular member and the polymeric tubular member within the lap joint.

2. (original) The medical device of claim 1, wherein the medical device is a catheter.

3. (original) The medical device of claim 1, wherein the metallic tubular member is a hypotube.

4. (original) The medical device of claim 1, wherein the polymeric tubular member is disposed onto the outside of the metallic tubular member.

5. (original) The medical device of claim 1, wherein the polymeric tubular member is disposed onto the inside of the metallic tubular member.

6. (original) The medical device of claim 1, wherein the coupling agent is a liquid.

7. (original) The medical device of claim 1, wherein the coupling agent is a paste.

8. (original) The medical device of claim 1, wherein the coupling agent is a powder.

9. (original) The medical device of claim 1, wherein the coupling agent is a functionalized titanate.

10. (original) The medical device of claim 9, wherein the functionalized titanate is neopentyl(diallyl)oxy,tri(dioctyl)pyro-phosphato titanate.

11. (original) The medical device of claim 9, wherein the functionalized titanate is neopentyl(diallyl)oxy,tri(N-ethylenediamino)ethyl titanate.

12. (original) The medical device of claim 9, wherein the functionalized titanate is neopentyl(diallyl)oxy,tri(m-amino)phenyl titanate.

13. (original) The medical device of claim 1, wherein the coupling agent is a functionalized aluminate.

14. (original) The medical device of claim 1, wherein the coupling agent is functionalized silane.

15. (original) The medical device of claim 1, wherein the coupling agent is functionalized zirconate.

16. (original) In a catheter having a lap joint between a metallic tubular member and a polymeric tubular member, the improvement in the catheter comprising:

a coupling agent, wherein the coupling agent is disposed between the metallic tubular member and the polymeric tubular member in the lap joint, the coupling agent having a first functional group and second functional group, the first functional group providing bonding adhesion to the metallic tubular member, the second functional group providing bonding adhesion to the polymeric tubular member, wherein the coupling agent maintains bonding adhesion between the metallic tubular member and the polymeric tubular member when in use.

17. (original) The improvement of claim 16, wherein the first functional group of the coupling agent comprises at least one hydrolyzable functional group.

18. (original) The improvement of claim 17, wherein the second functional group of the coupling agent comprises at least one (meth)acrylate monomer.

19. (original) The improvement of claim 16, wherein the second functional group of the coupling agent comprises of at least one amine monomer.

20. (original) The improvement of claim 16, wherein the coupling agent is a functionalized titanate.

21. (original) The improvement of claim 20, wherein the functionalized titanate is neopentyl(diallyl)oxy,tri(dioctyl)pyro-phosphato titanate.

22. (original) The improvement of claim 20, wherein the functionalized titanate is neopentyl(diallyl)oxy,tri(N-ethylenediamino)ethyl titanate.

23. (original) The improvement of claim 20, wherein the functionalized titanate is neopentyl(diallyl)oxy,tri(m-amino)phenyl titanate.

24. (original) The improvement of claim 16, wherein the coupling agent is a functionalized aluminate.

25. (original) The improvement of claim 16, wherein the coupling agent is functionalized silane.

26. (original) The improvement of claim 16, wherein the coupling agent is functionalized zirconate.

27. (withdrawn) A process for improved bonding in lap joints between metallic surfaces and polymeric surfaces in catheter shafts, the process comprising the steps of:

providing a metallic surface of a catheter;

providing a polymeric material;

providing a coupling agent;

applying the coupling agent between the metallic surface of the catheter and the polymeric material; and

affixing the polymeric material to the metallic surface of the catheter.

28. (withdrawn) The process for improved bonding of claim 27, wherein a layer of coupling agent is applied to the metallic surface prior to the application of the polymeric material.

29. (withdrawn) The process for improved bonding of claim 27, wherein a monolayer of coupling agent is applied to the metallic surface of the catheter.

30. (withdrawn) The process for improved bonding of claim 27, wherein the coupling agent is incorporated within the polymeric material.

31. (withdrawn) The process for improved bonding of claim 27, wherein affixing the polymeric material to the metallic surface of the catheter occurs in conjunction with thermal bonding.

32. (withdrawn) The process for improved bonding of claim 27, wherein adhering the polymeric material to the metallic surface of the catheter occurs in conjunction with laser bonding.